

REMARKS AND RESPONSES

This paper is in response to the Office Action of February 9, 2006. The due date for response extends to May 9, 2006.

Claim Rejections - 35 U.S.C. § 102

With respect to paragraph 3 of the Office Action, claims 1, 3-8, and 17-18 are rejected under 35 U.S.C. §102(e) as being anticipated by Xi (US 6,879,120).

Of rejected claims, only claims 1 and 7 are independent.

Claim 1 recites an overvoltage protective device, which is in parallel connection with a direct-current (DC) motor and includes a voltage-dividing circuit and a control unit. The voltage-dividing circuit has one end electrically connected to an *input voltage* of the DC motor, and the other end thereof connected to ground. The control unit is in parallel connection with one part of the voltage-dividing circuit, and for accessing a voltage level of the part of the voltage-dividing circuit to further drive the DC motor, wherein when a voltage level of the part is larger than a reference voltage, the control unit stops driving the DC motor.

Claim 7 recites an overvoltage protective device, which includes two resistors and a micro control unit (MCU) driver, for a DC motor having a plurality of power switches. A first resistor has one end electrically connected to an *input end voltage* of the DC motor. A second resistor has one end electrically connected to the other end of the first resistor, and the other end thereof connected to ground. The micro control unit (MCU) driver has a plurality of output terminals driving the power switches, and for accessing a terminal voltage of the second resistor. When the terminal voltage of the second resistor is larger than a reference voltage, the output terminals stop driving the power switches.

As defined by **claim 1**, the voltage-dividing circuit has one end electrically connected to an *input voltage* of the DC motor. As defined by **claim 7**, the first resistor has one end electrically connected to an *input end voltage* of the DC motor.

Xi fails to disclose the above-identified features, as expressly recited by claims 1 and 7. The Examiner asserted in the Office Action (page 2, paragraph 3) that Xi discloses a speed control circuit (11) comprising: a voltage diving circuit (R16 & R17) having one end thereof electrically connected to an input voltage of the DC motor. However, the voltage diving circuit (R16 & R17) of Xi is **not** electrically connected to the input voltage of the DC motor (22). The Examiner is invited to see Fig. 1 and col. 4, lines 13-15 of Xi. Symbols +V and +V_{cc} denote a power source for driving the motor (22) and the speed control circuit (11)

respectively. The voltage dividing circuit (R16 & R17) is electrically connected to the power source +V_{cc}. The **input** voltage of the DC motor (22) is the power source +V, rather than the power source +V_{cc}. (Note: According to *Microsoft Encarta* Dictionary, the definition of “input” in ELECTRONIC ENGINEERING field is “electricity driving a machine”).

Since Xi fails to anticipate an identical invention as contained in claims 1 and 7, the novel features of claims 1 and 7 produce new and unexpected results and hence are unobvious and patentable over prior art of record.

In addition, insofar claims 3-6 and 17-18 depend from claim 1, and claim 8 depends from claim 7. These claims add further limitations thereto. Thus, claims 3-6, 8, and 17-18 of the present application are also novel and unobvious over prior art of record.

Accordingly, Applicant respectfully submits that the rejections under 35 U.S.C. §102(e) should be withdrawn. Reconsideration and withdrawal of these rejections is respectfully requested.

Claim Rejection - 35 U.S.C. §103

With respect to paragraph 5 of the Office Action, claims 9-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Xi (US 6,879,120) in view of Wakui (US 6,396,225).

Of the rejected claims, only claims 9 and 14 are independent.

As defined by **claim 9**, an overvoltage protective device of DC motor includes two voltage-dividing circuits, a control unit and an operation amplifier. A first voltage-dividing circuit has one end electrically connected to an input end voltage of a DC motor, and the other end thereof connected to ground. A second voltage-dividing circuit has one end electrically connected to a reference voltage end, and the other end connected to ground. A control unit is responsible for controlling start of the DC motor. An operation amplifier has a non-inverted input end electrically connected to the first voltage-dividing circuit, an inverted input end thereof electrically connected to the second voltage-dividing circuit, and an output end thereof electrically connected to the control unit. When a voltage at the non-inverted input end of the operation amplifier is larger than a voltage at the inverted input end, the operation amplifier outputs an overvoltage interrupt signal to the control unit, and the control unit stops driving the DC motor.

As defined by **claim 14**, an overvoltage protective device of DC motor having a plurality of power switches includes four resistors, a drive IC and a comparator. A first resistor has one end electrically connected to a voltage input end of the DC motor. A second

resistor has one end thereof connected to the other end of the first resistor, and other end thereof connected to ground. A third resistor has one end connected to a reference voltage end. A fourth resistor has one end electrically connected to the other end of the third resistor, and the other end thereof grounded. The drive IC has a plurality of output terminals for respectively driving the power switches. A comparator has a non-inverted input end connected between the first resistor and the second resistor, an inverted input end thereof electrically between the third resistor and the fourth resistor, and an output end thereof electrically connected to the drive IC. When a voltage at the non-inverted input end is larger than a voltage at the inverted input end, the comparator outputs an overvoltage interrupt signal to the drive IC, and the output terminals then stops driving the power switches.

Claim 9 recites the feature “the first voltage-dividing circuit has one end electrically connected to an *input end voltage* of a DC motor.” **Claim 14** recites the feature “the first resistor has one end electrically connected to a *voltage input end* of the DC motor.”

Xi fails to disclose the above-identified features, as expressly recited in claims 9 and 14. The Examiner asserted in the Office Action (page 5, paragraph 5) that Xi discloses a speed control circuit (11) comprising: a voltage diving circuit (R11 & R12) having one end thereof electrically connected to an input voltage of the DC motor. However, the voltage diving circuit (R11 & R12) of Xi is **not** electrically connected to the input voltage of the DC motor (22). The Examiner is invited to see Fig. 1 and col. 4, lines 13-15 of Xi. Symbols +V and +V_{cc} denote a power source for driving the motor (22) and the speed control circuit (11) respectively. The voltage diving circuit (R11 & R12) is electrically connected to the power source +V_{cc}. The **input** voltage of the DC motor (22) is the power source +V, rather than the power source +V_{cc}. (Note: according to *Microsoft Encarta* Dictionary, the definition of “input” in ELECTRONIC ENGINEERING field is “electricity driving a machine”).

Accordingly, Xi fails to teach all features as contained in claims 9 and 14. Xi in view of Wakui also fails to achieve the same. Therefore, the novel features of claims 9 and 14 produce new and unexpected results and hence are unobvious and patentable over these references.

In addition, insofar claims 10-13 depend from claim 9 and claims 15-16 depend from claim 14. These claims add further limitations thereto. Thus, claims 10-13 and 15-16 of the present application are also novel and unobvious over the prior art of record. Accordingly, Applicant respectfully submits that the rejections under 35 U.S.C. §103(a) should be withdrawn.

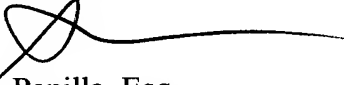
Reconsideration and withdrawal of this rejection is respectfully requested.

Conclusions

For all of the above reasons, applicants submit that the specification and claims are now in proper form, and that the claims define patentably over prior arts. Therefore applicants respectfully request issuance for this case at the Office Action's earliest convenience.

If the Examiner has any questions concerning the present amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6903. If any other fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. JLINP171/TLC). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
MARTINE PENILLA & GENCARELLA, LLP



Albert S. Penilla, Esq.
Reg. No. 39,487

710 Lakeway Drive, Suite 200
Sunnyvale, CA 94085
Telephone: (408) 774-6903
Facsimile: (408) 749-6901